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ABSTRACT

A number of criticisms have been made of currently available standardized pre-reading test materials in terms of their appropriateness for administration to urban children, their standardization, their content, and their required testing procedures. This new pre-reading skills battery has been designed as an urban oriented testing instrument to eliminate many of the existing test shortcomings and is ready for experimental edition publication. The battery can be group-administered by classroom teachers in the kindergarten or first grade prior to the start of formal reading instruction. It is intended to be used both as a screening device and as a diagnostic tool providing the teacher with information concerning a child's strengths and weaknesses in specific pre-reading skills areas. The single component sub-tests cover a range of pre-reading skills, allowing the battery to be used appropriately with children who will be taught reading by any one of a variety of instructional methods. (Author/TO)

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SPECIAL PROJECT IN URBAN READING TESTS

Component I

Pre-Reading Skills Battery

November 8, 1971

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Abstract

The Center for Urban Education has developed a new Pre-Reading Skills Battery to meet the unfilled testing needs and demands of urban school districts. The standardized testing needs of these districts are not being met or satisfied by the existing test material. A number of criticisms have been made of currently available standardized pre-reading test material in terms of their appropriateness for administration to urban children, their standardization, their content and their required testing procedures. This new pre-reading skills battery has been designed as an urban oriented testing instrument to eliminate many of the existing test shortcomings and is ready for experimental edition publication. The battery can be group administered by classroom teachers in the kindergarten or first grade prior to the start of formal reading instruction. It is intended to be used both as a screening device and a diagnostic tool providing the teacher with information concerning a child's strengths and weaknesses in specific pre-reading skills areas. The single component sub-tests cover a range of pre-reading skills allowing the battery to be used appropriately with children who will be taught reading by any one of a variety of instructional methods. The potential market for this new test is in the urban school districts of the United States with their large public school populations and mandated annual testing programs.

SPECIAL PROJECT in URBAN READING TESTS

Component I

Pre-Reading Skills Battery

A key requirement of beginning reading instruction is the measurement of skills children should have mastered as a prerequisite to reading instruction. This assessment should also be diagnostic to provide effective curriculum guides to teachers. Currently, such assessment is made both through the use of group administered standardized reading readiness tests and by a teacher's judgment of a child's readiness level through observation check lists and parent conferences.

Teachers prefer the use of objective readiness tests rather than a reliance on their subjective observations and judgments. In The First R - The Harvard Report on Reading in Elementary Schools, Austin and Coleman report that "more than 80% reported (1023 participating school systems) that they 'always' or 'often' used readiness tests. These tests are designed for use near the end of kindergarten or the beginning of first grade."[1]

Currently available standardized tests are not accurate for all children. They are especially poor guides for teachers of urban children from economically deprived areas. Samuel Weintraub stated in 1967 that "the question of the validity of these instruments (reading readiness tests) may well be raised when they are used with any group other than with the children from middle class backgrounds. The need therefore is twofold: (1) to find instruments for use with children from different cultures and (2) to find instruments that are better predictors of achievement than those now in existence."[2] In addition, Roger Farr quoted in 1969 that "the particular subculture from which a child appears to be an important variable in the predictive validity of readiness tests."[3]

Despite the inadequacy of existing tests for many students, educators continue, reluctantly, to administer them. This is partially a response to parents and boards of education who are increasingly demanding accurate appraisals of pupil progress and objective evidence of pupil growth as the concept of accountability in education takes hold increasingly. The common criteria for appraisal of pupil growth is standardized group administered tests. As the use of group tests to gauge the effectiveness of pupil learning has increased, so has the criticism of their validity and reliability. Parents and teachers alike are demanding instruments of greater validity than those presently available for urban school populations.

To meet these demands, publishing corporations are concerned with the quality of the product and the unit cost. The current availability of test materials is analagous to the situation in general instructional materials that existed several years ago. At that time, textbooks were developed for a mythical "national market" and materials did not always reflect the diverse populations of the urban schools. There was little material that met the needs of the varied groups which were concentrated in large numbers in America's urban centers. Many new materials were developed subsequently and are now available.

There is an analagous need today to develop and disseminate more effective group administered reading instruments for use by teachers, especially teachers in urban schools. The Center for Urban Education has been developing standardized group reading tests to meet these needs.

The first component of this development effort, a pre-reading skills battery, is now ready for experimental edition publication to complete the final development tasks: standardization of the battery and validation of predictability. The new Pre-Reading Skills Battery is designed as an urban

oriented testing instrument to be grouped administered by kindergarten or first grade teachers prior to formal reading instruction. It is intended to be used both as a screening device and as a diagnostic tool providing the teacher with information concerning a child's strengths and weaknesses in specific pre-reading skills areas. The single component sub-tests cover a range of pre-reading skills allowing the battery to be used appropriately with children who will be taught reading by any one of a variety or instructional methods.

The potential market for this new test, after experimental edition standardization and validation of predictability, is in the urban school districts of the United States with their large public school populations and mandated annual testing problems.

STATEMENT OF THE PROBLEM

The need to develop and disseminate more effective reading group measurement instruments for teachers, especially for these in urban schools, exists and is not being met. In Learning to Read: The Great Debate, Harvard's Dr. Jean Chall stated:

> I found however, that most teachers and principals, have little faith in the standardized tests now given periodically in every school . . . Thus there is a need for single-component tests - tests of word recognition, tests of mastery of the alphabet in principle (ability to apply knowledge of letter sound correspondences) as well as tests of reading comprehension, critical reading, and appreciation. For the primary grades, tests of code mastery are essential. The teacher needs simple diagnostic tests, while the researcher needs more complex ones. The present standardized group tests seem to be a poor comprimise between the two.[4]

In addition to the general needs described by Dr. Chall, specific questions have been raised about the suitability of existing group measurement

tests in reading readiness (e.g., the Metropolitan Reading Readiness Test, Harcourt Brace; and the Clymer-Barrett Pre-Reading Battery, Personal Press Inc.) when they are used to measure the skills of urban low income children. Critical questions have been raised about the content, stardardization, and testing procedures of the existing instruments.

The content of such tests is frequently restricted to middle class language and reflects the experiences of middle class children. Thus, the stories, pictures, and words are unfamiliar to urban children and the content does not reflect the situation and life style of this group. When such test instruments are used with the heterogeneous urban population, they will not accurately assess the mastery level of urban children.

For example, the following is an item from the New York State Reading Readiness Tests, and edition of the Metropolitan Reading Readiness Tests. Three pictures show: (1) Mother speaking on the phone, (2) Mother at the check-out counter in a grocery store, and (3) Delivery boy carrying a box of groceries on his shoulder. The passage reads:

> The storm was very bad. Mother could not go to the store but she needed some things. Mark what Mother did next.

Of course, the "right" answer is Mother on the phone calling to have the groceries delivered. Is this situation typical of the life style and experience of economically deprived city children? The more obvious answer to the urban child would be Mother or a sibling at the checkout counter, an option not considered in the present test.

The standardization procedures which have been used in the current tests have also been criticized. Many of the tests were standardized primarily with white middle class children. For example, the Metropolitan Reading

Readiness test which is widely used has standardization norms "based on 15,081 white children from 56 communities in 26 states."[5] This kind of standardization would "validate" the type of test content already described. Another widely used reading readiness test was standardized with 5,565 first grade pupils.[6] The manual included a separate standardized table for "pupils in educationally atypical groups.[7] One of these "atypical" groups was "five first grade classes in two mixed ethnic deprived neighborhoods in a very large city; 111 pupils." This was the total sample population and the mean total score for this group was 25.6 out of a maximum possible total score of 120. Is it possible to classify the majority population of any urban school system as "atypical" and also base the norms of so few children? In addition, the mean score of 25.6 out of a possible score of 120, according to the tables provided, is at the lowest point of the second stanine, and barely included in the percentile rank of 5 percent. According to the test authors' interpretations of these scores, the children in this group are the average, at a minimal or inadequate level for beginning reading instruction. Even if the tests were valid for urban children, critical questions would still be raised.

The urban classroom teacher would not be able to obtain a discrete interpretation of the scores for diagnostic purposes when there is such a large cluster of scores at the lower end of the test scale. Such tests do not provide a reliable differentiation of skill mastery level when the all of test scores are at the lower end of the score range.

In general, standardization procedures previously used need to be examined Dr. Margaret Keyser Hill states: "There is also a need for norms which are representative of the nation as a whole, and norm tables for specific categories of pupils such as urban disadvantaged, non-urban disadvantaged, bilingual. In other words, the representative population should be truly representative and the population should be clearly described.[8]

The testing procedures of existing tests may also affect the child's score and prevent him from scoring at an optimal skill level. Questions have been raised about the format of the tests, the nature of the test tasks involved, and the vocabulary and concepts used in the directions. The last factor is especially crucial when children have limited experience with English as a second language, let alone a first!

A sampling of pre-reading test reviews in the 1968 edition of Buros' Mental Test Measurement Yearbook indicates some other major shortcomings in group tests intended for use by classroom teachers.

1. The content of the test, including vagueness or ambiguity in defining the skill being measured; overlap of skills in a test purporting to measure a single function; establishment of complex or changing response patterns so that the child's ability to follow test directions affects his test scores; failure to provide full explanation of the basis for selection of test item vocabularies (including the use of outdated vocabulary lists); and, failure to provide instruments that take into account the large variation in vocabulary and skills taught by a wide range of beginning reading programs.
2. The failure of many group standardized tests to report or meet technical criteria as recommended by the American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education.

In brief, existing, pre-reading measurement instruments are deficient in meeting the needs of the heterogeneous urban school population. The development of more effective instruments oriented toward the needs of this population group would contribute to more effective reading instruction. At the same time, it would be commercially feasible to develop these test instruments. The potential market includes the urban school districts of the United States, as well as the expanding suburban school systems which are becoming increasingly similar to their urban counterparts. These school districts would be as receptive to more adequate testing instruments as they were to the new instructional materials developed during the last ten years to meet their needs.

The Center for Urban Education has already completed several years of test development work and is prepared to submit the draft copy of an experimental edition of the SPURT Pre-Reading Skills Battery. This experimental edition has been field tested with over 900 children, while the early forms of the tests were used with 5,000 children. The development process is described in greater detail in the study design section of the proposal.

RELATIONSHIP OF PROJECT TO THE OVERALL GOALS OF THE CENTER FOR URBAN EDUCATION

The Center for Urban Education is a nonprofit research and development organization that seeks solutions to the educational and school-related problems of urban and suburban communities. It operates under permanent charter granted in 1965 by the New York State Board of Regents. The Center is funded principally by the United States Department of Health, Education and Welfare through the Office of Education, as an educational laboratory under Title IV of the Elementary and Secondary Education Act. It also contracts with other governing agencies, state and local as well as federal, and with business

firms and community agencies. One of the largest organizations of its kind in the United States, CUE has completed research and development work at a cost of more than 15 million dollars during its first five years of activity.

From its inception in 1965, the Center for Urban Education has researched, developed, and disseminated solutions to selected problems in urban education. Its overall mission has been to improve the quality of teaching and learning -- out of school as well as within -- in the metropolitan area communities of the United States. In its focus on the needs of elementary school children, the Center has placed special emphasis on programs to improve literacy. This has been a continuing goal of the Center and is exemplified by its current program to develop and disseminate materials and techniques which increase general student levels of reading comprehension during the elementary school years. In building the base for this program, the Center participated in research and development activities in the areas of beginning reading and pre-school programs.

RELATED CURRENT WORK IN THE AREA

We have found that although diagnosis and assessment of pre-reading skills is a critical area of concern, much of the present work being done is in the development of individually administered tests or specific reading program related tests. For example, the Wisconsin Research and Development Center is developing a Wisconsin Basic Pre-Reading Skills Battery (WBPST) which will be linked to an individualized instructional program to help children overcome pre-reading deficits measured by the WBPST. However, the WBPST is administered to each child individually, and the measurement process requires at least fiften minutes per child. The assessment is linked directly to the instructional program which is also being developed by the Research

Development Center, and therefore is not a general measurement and diagnosis of skills requisite for success in beginning reading.

To the best of our knowledge, there is no other test development effort similar to the Center's and at the stage of development of the present Center SPURT Pre-Reading Skills Battery. With adequate funding, the battery development phase could be completed within 18-24 months. The product would be a standardized pre-reading skills battery developed to meet the needs of urban school children. This test could be sold to urban school systems who have requested such material. The Test Booklets are used by the children and an annual replacement would be required. The same needs exist for reading achievement tests as for the pre-reading skills tests. The Center has preliminary versions of elementary grade reading achievement tests developed by test consultants which require further development before they can be utilized as group measurement instruments.

STUDY DESIGN

After several years of research and development which has included the publication and field testing of an item analysis edition, the Center Pre-Reading Skills Battery is now ready for experimental edition.

The Pre-Reading Skills Battery is a group-administered diagnostic instrument that measures skills in three areas considered to be prerequisite to beginning reading instruction: Language, Visual Perception, and Auditory Perception. Within each of those areas several skills are tested through two or three sub-tests included for that particular skill. Such a prccedure should ensure diagnostic placement of a child on a developmental skill level for each of the skills included in the battery.

The 13 sub-tests included in the experimental edition of the Pre-Reading Skills Battery are:

Language

1. Meaning Vocabulary, Test 1
2. Meaning Vocabulary, Test 2
3. Auditory Comprehension
4. Visual Comprehension

Visual Perception

1. Letter Similarities
2. Letter Combinations Similarities
3. Memory Letters
4. Memory - Letter Combination Similarities

Auditory Perception

1. Auditory Discrimination, Test 1
2. Auditory Discrimination, Test 2
3. Auditory Discrimination, Test 3
4. Auditory Blending
5. Auditory Sequencing

This battery was constructed so that in each of the sub-areas (Language, Visual Perception, and Auditory Perception), the sub-tests have a range of difficulty. When the battery is administered, the sub-test of medium difficulty in each sub-area is administered first, and the performance of a child determines whether or not the additional sub-tests are administered. Children scoring low receive the easier sub-test and children scoring high receive the more difficult sub-test where it exists. The scores from this range of tests will give a more discrete profile of the child's strengths or weaknesses in each of the three sub-areas. This procedure for the battery is based on the sub-test levels used in the Stanford Binet Intelligence tests.

In the Language sub-battery, the sub-test areas included are Meaning Vocabulary, Auditory Comprehension, and Visual Comprehension. The Meaning Vocabulary tests were designed to measure the receptive language skills in the area of vocabulary and concepts, rather than the expressive skills. While expressive skills show language usage, receptive skills seem more closely

allied to reading comprehension through their intake of information and concepts. These two areas are often confused in language testing. A major concern of the test developers was to identify the words and concepts which are basic at the pre-reading level and also within the cultural milieu of the heterogeneous urban population. Previous vocabulary tests had been based on the traditional primary grade word lists, such as the Rinsland and the G Gates lists, but these were considered too dated to reflect the vocabulary of the target population. A concerted search was made for an up-to-date primary vocabulary list having two characteristics: (1) inclusion of urban children of various ethnic groups in the sampling; (2) inclusion in the list of words from receptive language skills as well as those spoken by children. Of the few lists available, only one seemed usable, although it, too, did not meet the criteria exactly. It was "The Spontaneous Speaking Vocabulary of Children in Primary Grades" by Helen A. Murphy and others.[9] The list was considered the most comprehensive and up to date of those available, and was used as the source of words for the two Meaning Vocabulary Tests. The two Vocabulary Tests measure knowledge of common words, ranging from simple labels for nouns to more difficult concepts of position.

The Auditory Comprehension tests require the child to show comprehension of orally given sentences and stories by making pictures to indicate what he has heard. The Visual Comprehension tests measure the child's comprehension of pictures given him, ranging from short simple actions to more complex visual interactions.

In the Visual Perception area, Discrimination and Memory sub-areas are included. Discrimination sub-tests measure skills in differentiating letters or letter combinations. In the Memory sub-area, short term memory for letters or letter combinations is measured.

The Auditory Perception sub-battery includes Discrimination, Blending, and Sequencing. The Discrimination sub-tests measure skills ranging from differentiating orally given nouns to matching pictures from the same beginning consonant sound. The Blending sub-test requires the child to find a picture corresponding to a word orally given in unblended (in syllables) form. The Sequencing test requires the child to find a picture sequence corresponding to an orally-given sequence of objects, thus indicating his visual-auditory integration skills.

In constructing the 13 tests for the battery, a primary consideration was that both the directions for administration and the design of the pictures and letters be simplified and standardized for all of the tests so as to allow for more direct and valid measure of the test tasks. Each test has the same format with three sample items and identification information on the front page. Items are placed in rows across the page, with seven or eight rows on a page, so that a cardboard marker can be placed under each row to help focus attention.

Administration procedures have been simplified and are consistent for all sub-tests. Since each test requires the marking of an X on the chosen option, practice is given in making X's in sample boxes on the front page. Next, the three samples are explained and worked through with the class with the children's work checked for each sample to make sure that the directions were understood and the correct items were marked. Directions for the sample items are to be repeated, if not understood, until the tester is satisfied that all children understand the test task. Thus, considerable effort is made to teach the test task before the test items are presented.

As a further aid, an identifying picture is placed to the left of each row: i.e., a star, a ball, or an arrow, and a marker will be given to each

child. During the test administration, as each test item is presented by the tester, the child is asked to place his marker under the row with the star next to it, etcetera. This serves to focus the children's attention on a particular row; and the marker blocks out the row immediately below the pertinent one.

The wording used in the sample items for the turning of pages, and for the marking of items, is similar to the wording used in the test itself. It is expected that the repetitious nature of the administration procedures will help minimize them as possible factors in making irrelevant test errors.

Since another source of existing test errors was thought to be the design of the picture and letters, particular care was taken to use simple line drawings with an uncluttered format. A cartoon-like format was used rather than drawings with shadings. Identical drawings were used across tests: i.e., a picture of a chair used in one test was also used in another test requiring a chair picture. Items were placed with adequate spaces around them and were usually enclosed in boxes so as to keep them distinct from each other.

A key concern of the test design was the familiarity of the items in the test to the urban population whose needs are not being met by existing tests. The objects used in picture drawings were selected as being representative of objects found in the urban environment. The selected items were usually connected with home or neighborhood experiences. More detail on the nature of the items may be seen by examining the attached tests.

This projected experimental test edition on the battery has developed over a five-year period. In 1966, the Center initiated the Beginning Reading Project which was a projected four-year longitudinal study of beginning reading. The initial project population included 6,000 kindergarten children in New York City public schools predominately located in economically deprived

areas. One of the major tasks of the Test Construction Unit of the Beginning Reading Project was to evaluate the pre-reading skills of the kindergarten sample before the various reading curricula were put into operation. Measurements of pre-reading skills were needed which were specially geared to the study, as well as to the needs of the heterogeneous kindergarten urban school population to be tested. It became evident to the project consultants that the existing pre-reading testing instruments were not adequate for the urban population for the reasons already cited, and that new instruments had to be developed.

The pre-reading test battery was then constructed for use in the project and selected sub-tests administered to the 6,000 child kindergarten sample in spring 1967. A twenty-five percent sample of approximately 1,500 children took the full battery as an individually administered test. Results of the four-year longitudinal study completed in June 1970 have shown that the individually-administered battery was highly predictive of later reading for the sample population as measured by the second and third grade Metropolitan Reading Achievement Tests.

During the 1970-1971 program year, the Center proceeded with the development of this individually-administered battery into a group administered pre-reading skills battery. During this period the battery was reviewed and shortened to a manageable length, as well as revised to make the sub-tests group-administered.

A pre-pilot testing was conducted in selected New York City public schools in March, 1971 to determine the format of some of the sub-tests, and an item analysis edition (copies attached) was administered to a sample population of 900 children in June, 1971. The sample population included six groups considered to be representative of the target heterogeneous urban population.

	Middle Income	Low Income
Black	150 pupils	150 pupils
Spanish Speaking Background	150 pupils	150 pupils
Other	150 pupils	150 pupils

Following a computer analysis of the data from this item analysis edition, an experimental edition of the pre-reading skills battery was prepared and is now ready for publication.

Prior to publication of this battery for general use by classroom teachers, the following development tasks must be completed with the experimental edition:

1. Validation: The battery must be correlated with the end of first grade reading achievement tests to ascertain its value as a predictor.

2. Standardization: The battery must be administered to a wide population sample in order to develop standardized norms for the use of the battery.

3. Revision: The final edition of the test should include modifications based on the results of the validation and standardization procedures.

An eighteen month to two-year period is required for this process from the time that funding support is assured. The projected timetable for final development would be as follows:

January 1 - April 30, 1972: Preparation of the experimental edition from the presently available draft. A detailed description of each of the thirteen sub-tests in the battery has been written and the prototype of the experimental edition is completed.

Establishment of arrangements for standardization population which would be reflective of the national urban population. A minimum of 10,000 children should be selected from cities across the United States. A list of cities from which this sample population could be drawn is available.

May 1 - June 1, 1972: Administering the test battery to the kindergarten sample population.

July 1 - September 30, 1972: Analysis of test results and forwarding of test scores to participating school systems.

September 1 - October 15, 1972: Administering the test to a first grade sample population. This sample population would be in addition to the kindergarten sample tested in the spring. Data from an additional sample would enable us to develop norms for both the kindergarten and first grade children through one standardization procedure.

October 1 - December 31, 1972: Possible revision of test administration directions and possible revisions of battery based on previous analysis.

January through March 1973: Preparation for administration of first grade reading test to sample standardization population (Both Kindergarten and first grade.)

April, 1972: Administering the first grade reading test to sample population.

May - August, 1973: Preparation of tables and final revisions of the battery. Dissemination of availability of test for general use in September 1973.

September, 1973: Publication and general use of test.

CUE'S CAPABILITY

The Center for Urban Education has the competency and expertise required to complete the development of the SPURT test batteries. The entire development process culminating in the preparation of the experimental test draft has been carried out under Center auspices. Dr. Shirley Feldman and Mrs. Lois Hilton, the two test consultants who prepared the original test material in 1966, have continued to develop the battery. The Center staff who worked with them are ready to complete the additional developmental tasks.

Our experience both in the Beginning Reading Project and with the item analysis edition has shown that urban classroom teachers and school principals want and need a new Pre-Reading Skills Battery which will be an effective aid to programs of beginning reading instruction in urban schools. The projected experimental edition of the Center for Urban Education Pre-Reading Skills Battery fills this need.

FOOTNOTES

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